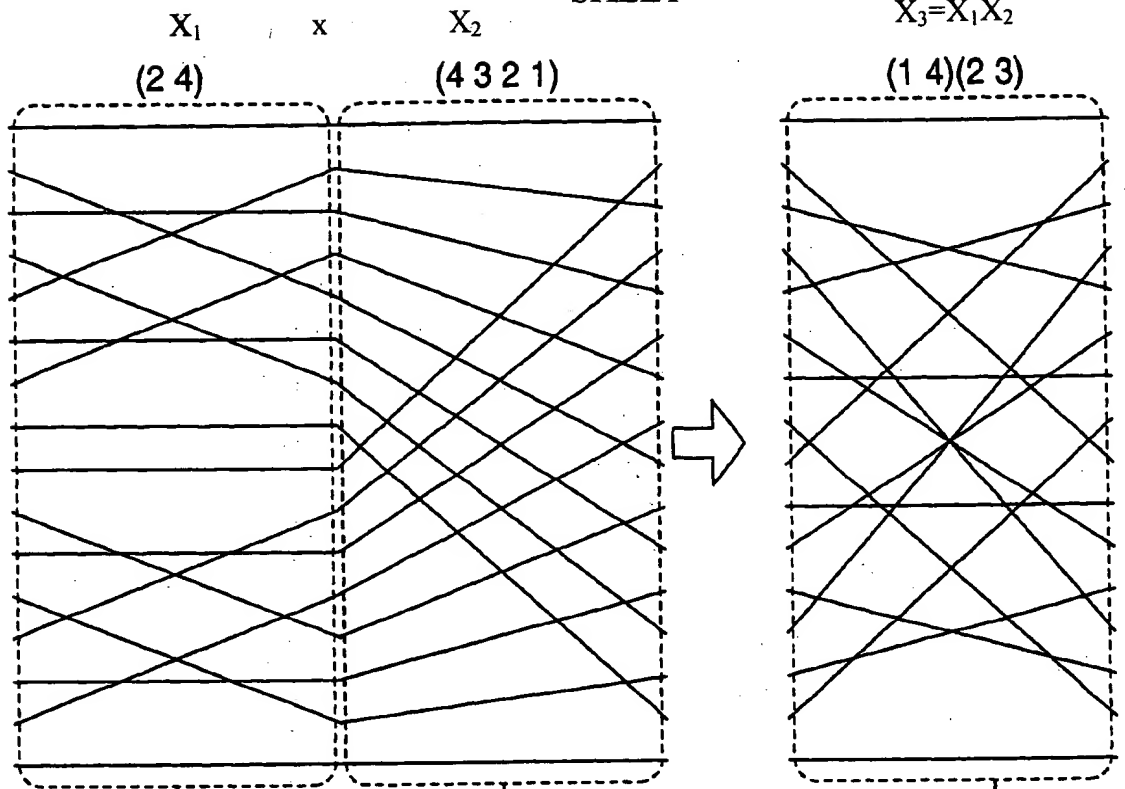


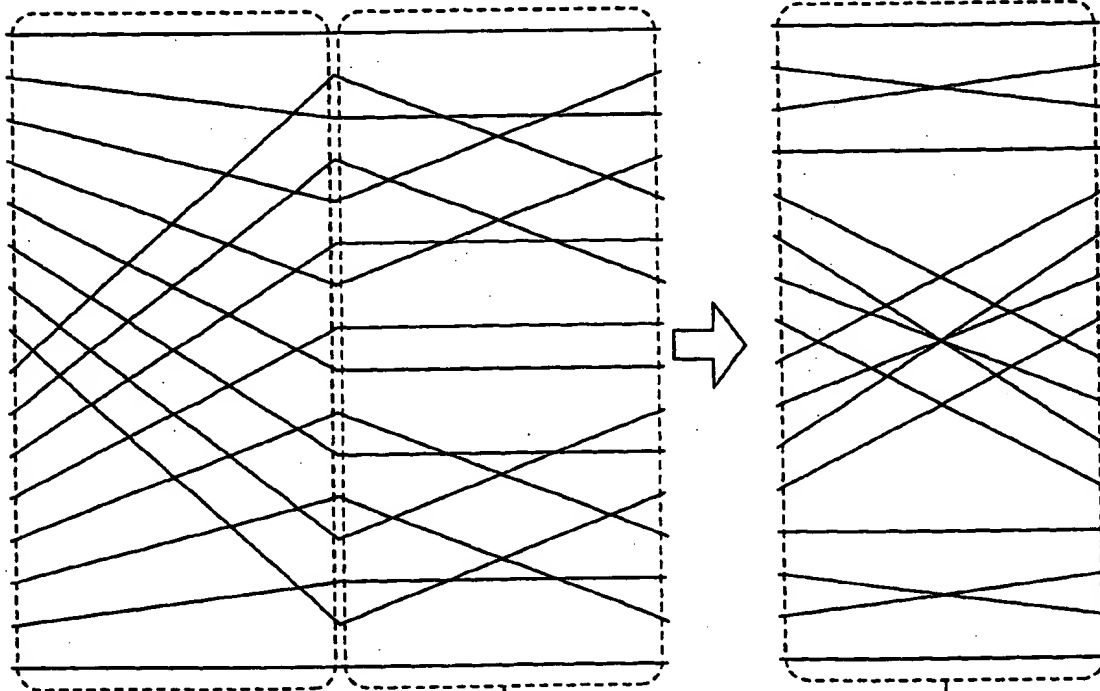


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REPLACEMENT SHEET



691 Exchange X_2 692 Exchange X_1 FIG. 6E 693 Exchange $X_4 = X_2 X_1$
(4 3 2 1) (2 4) (4 3)(2 1)



692 Exchange 691 Exchange FIG. 6F 694 Exchange

REPLACEMENT SHEET

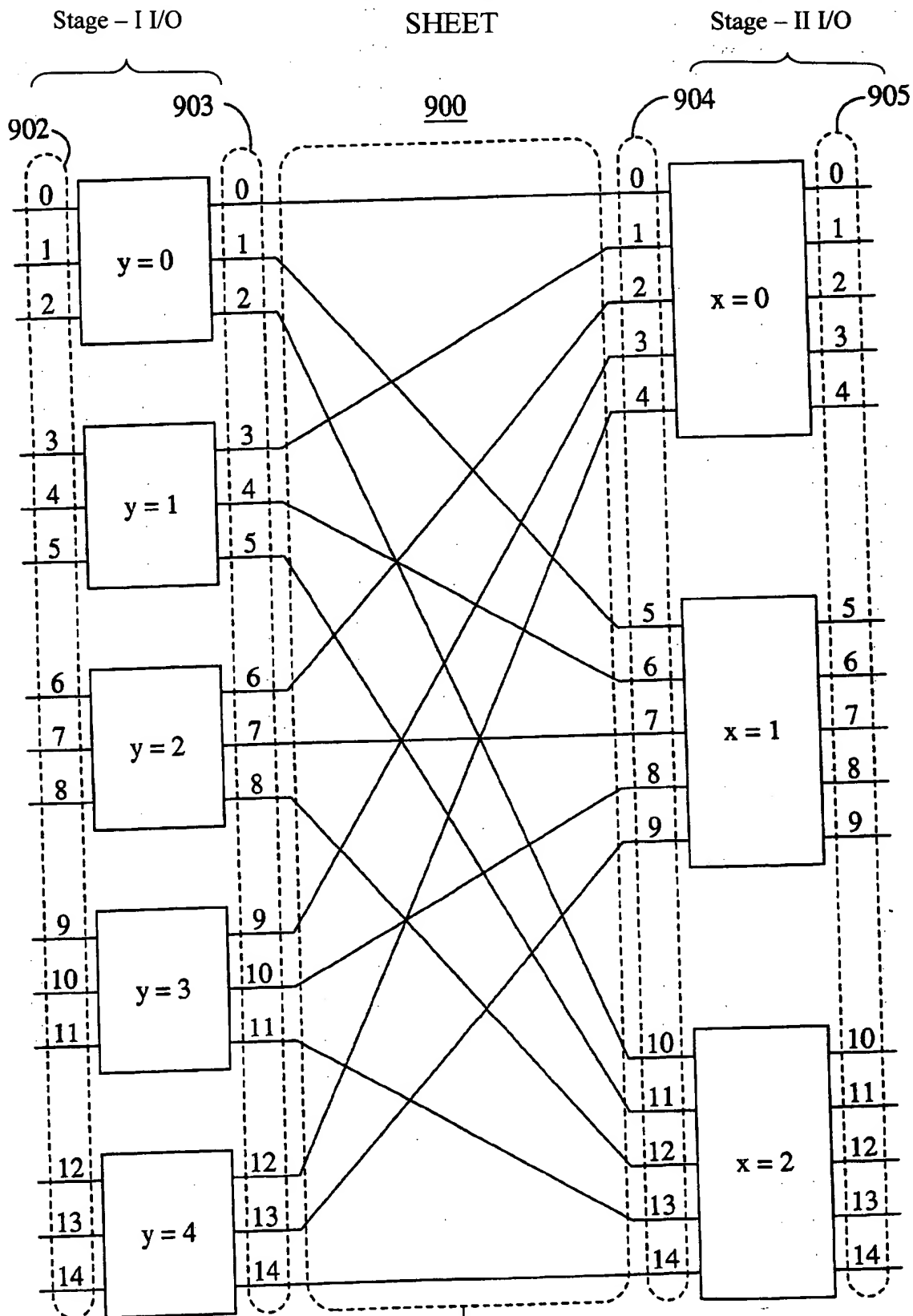
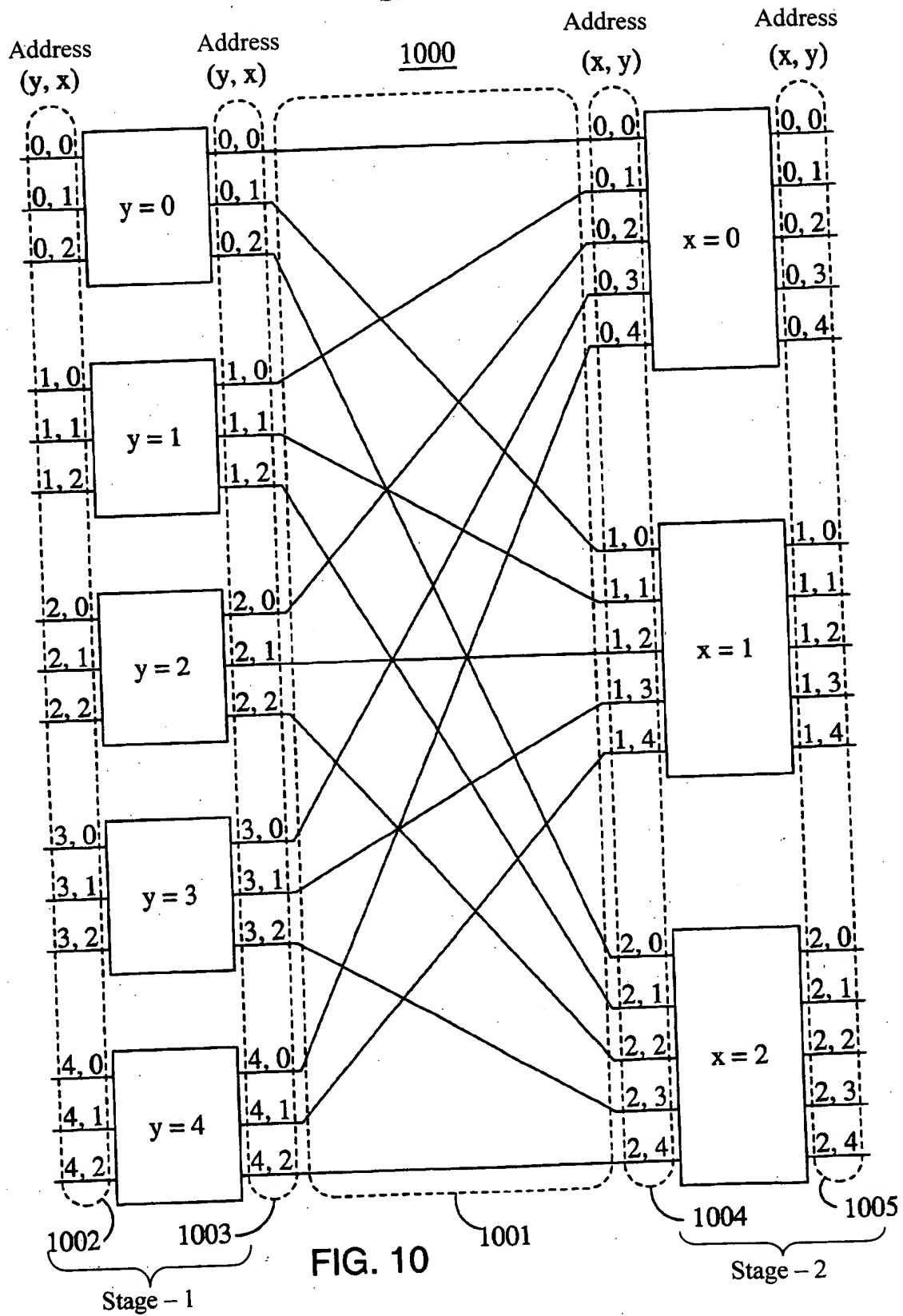


FIG. 9

901 Interstage Exchange

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REPLACEMENT SHEET



REPLACEMENT SHEET

1200 2X Version of 2Stg(3, 5)

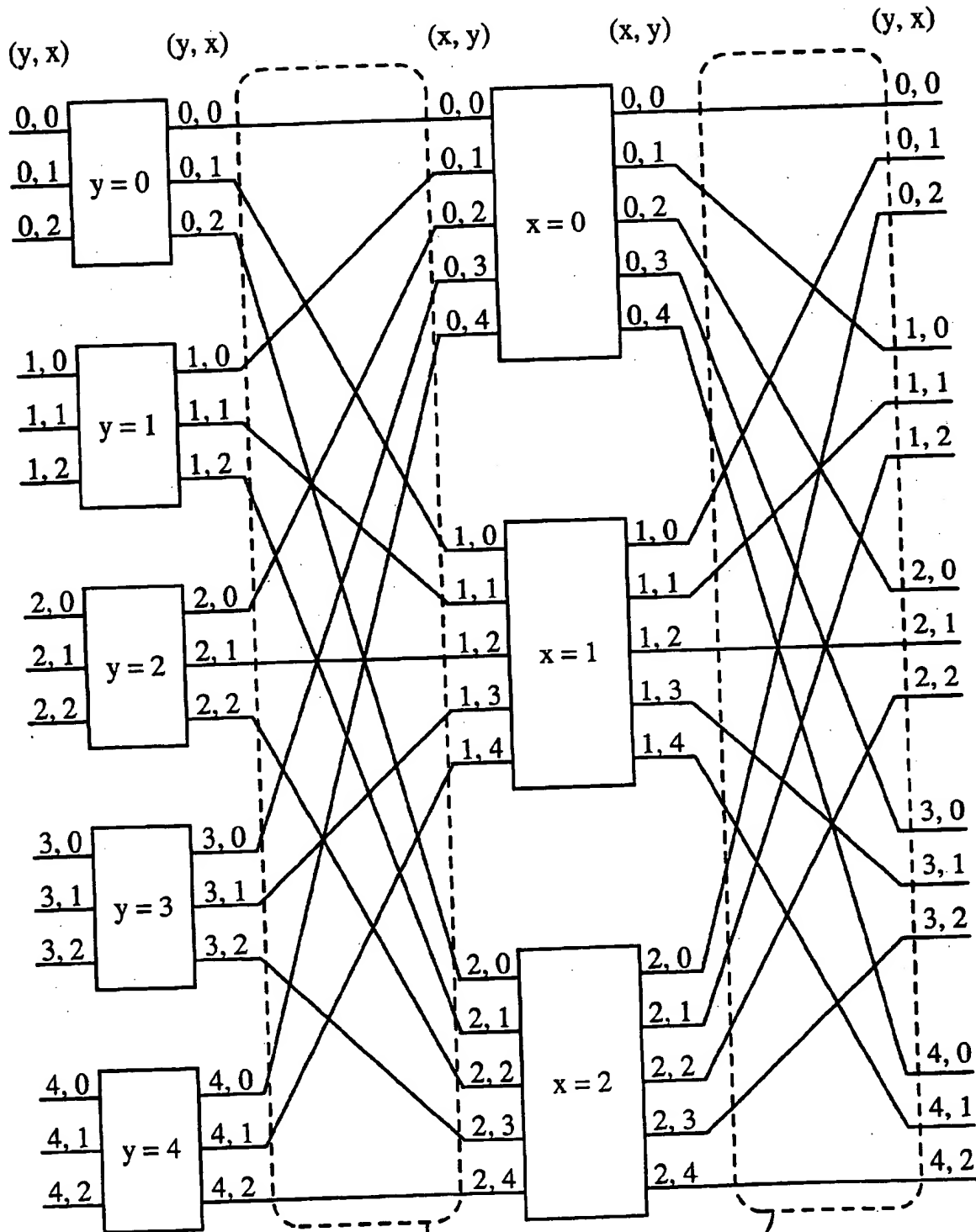


FIG. 12

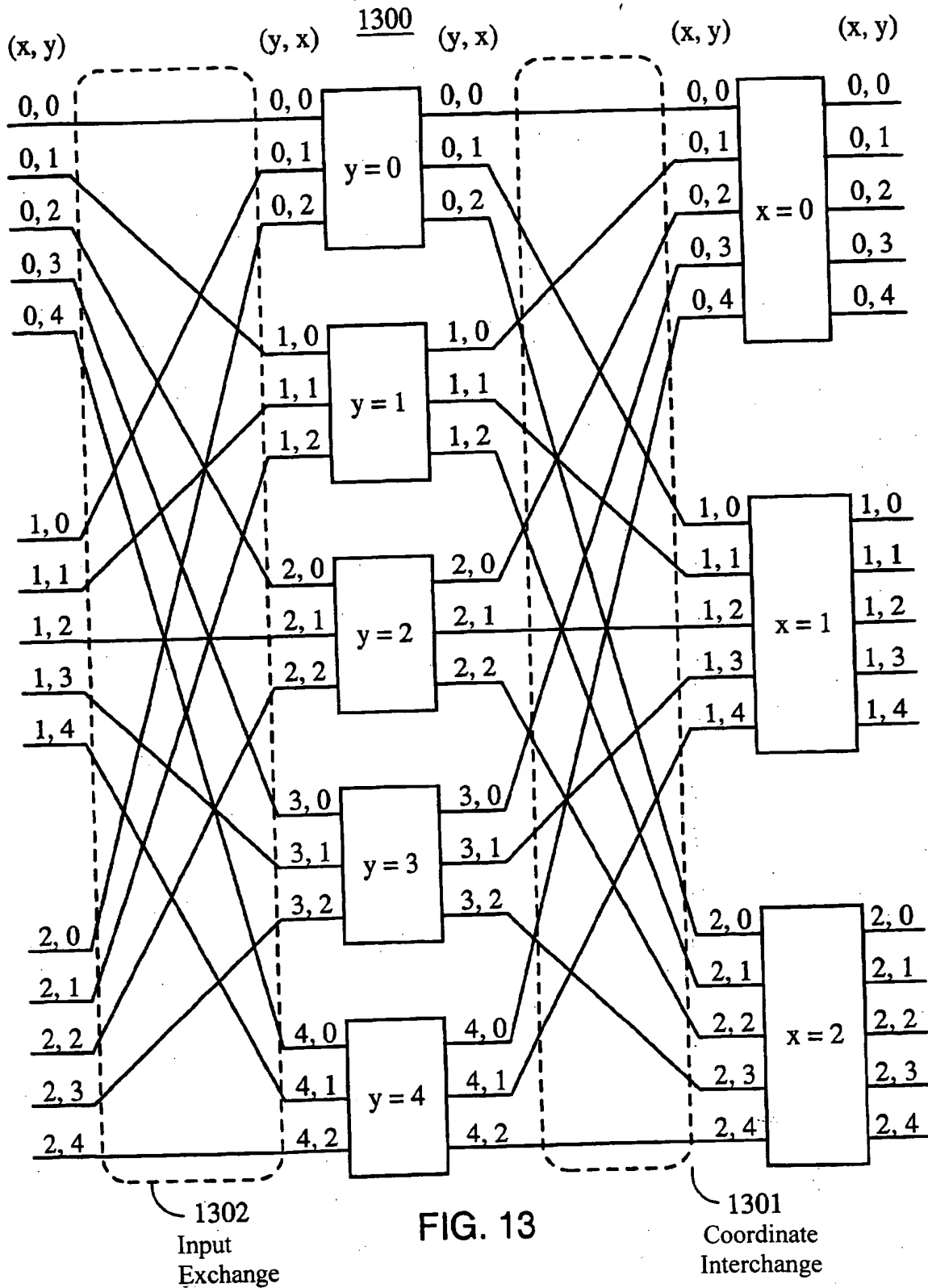
1201
Coordinate
Interchange

1202
Output
Exchange

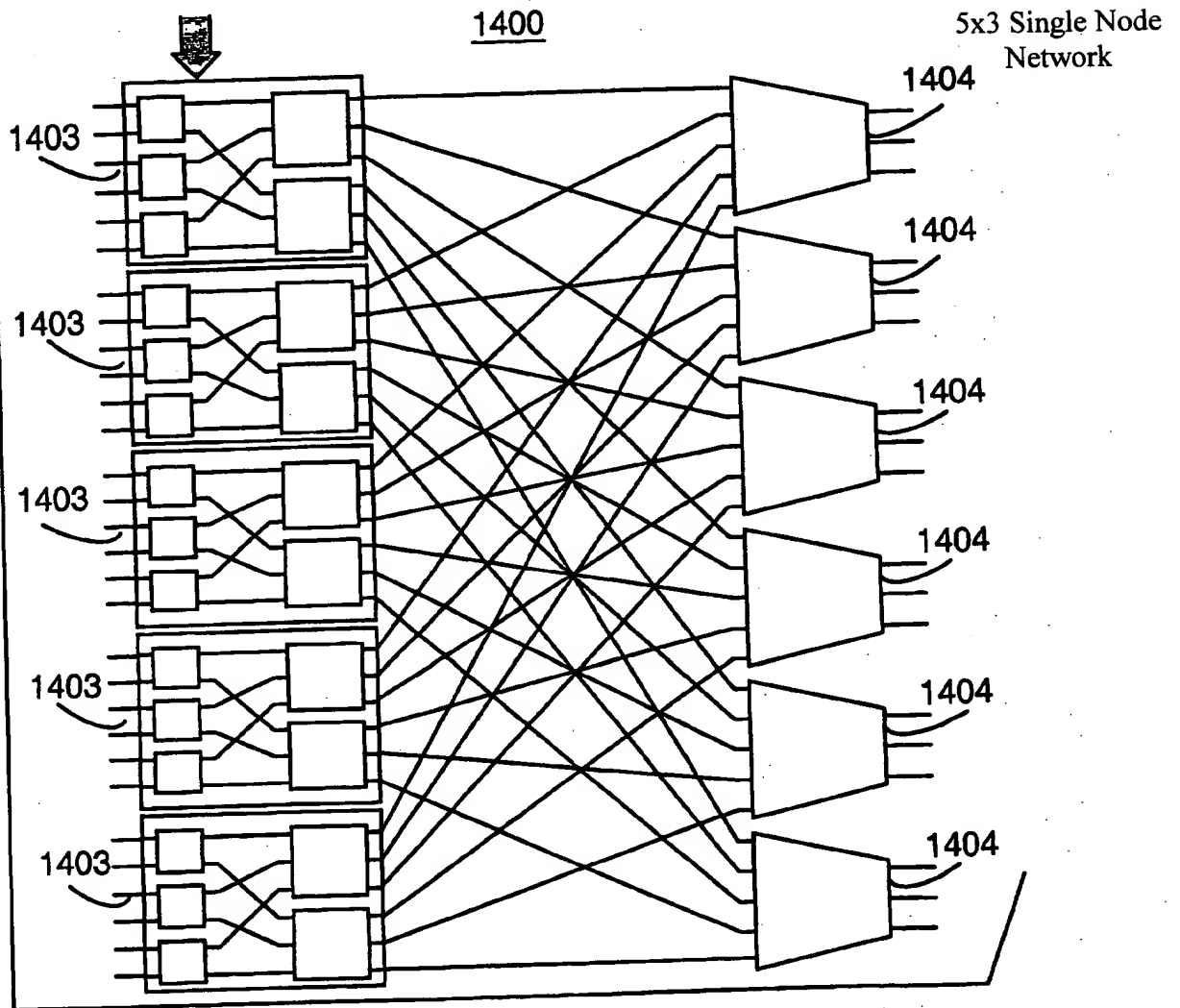
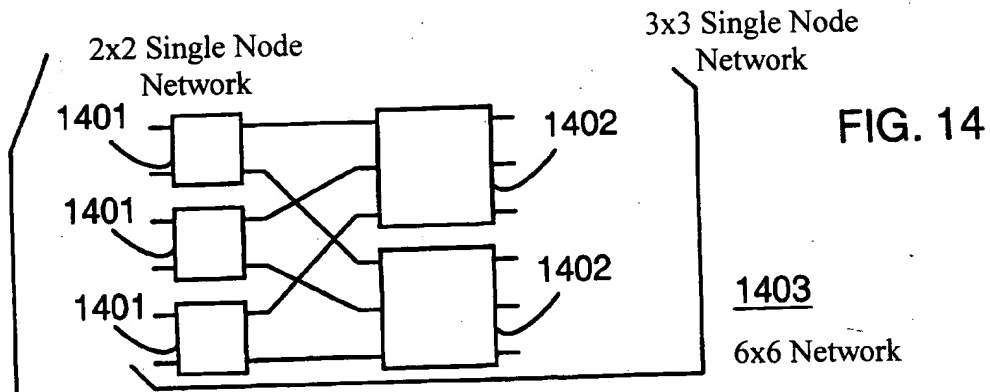
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REPLACEMENT SHEET

X2 Version of 2Stg(3, 5)



REPLACEMENT SHEET



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REPLACEMENT
SHEET

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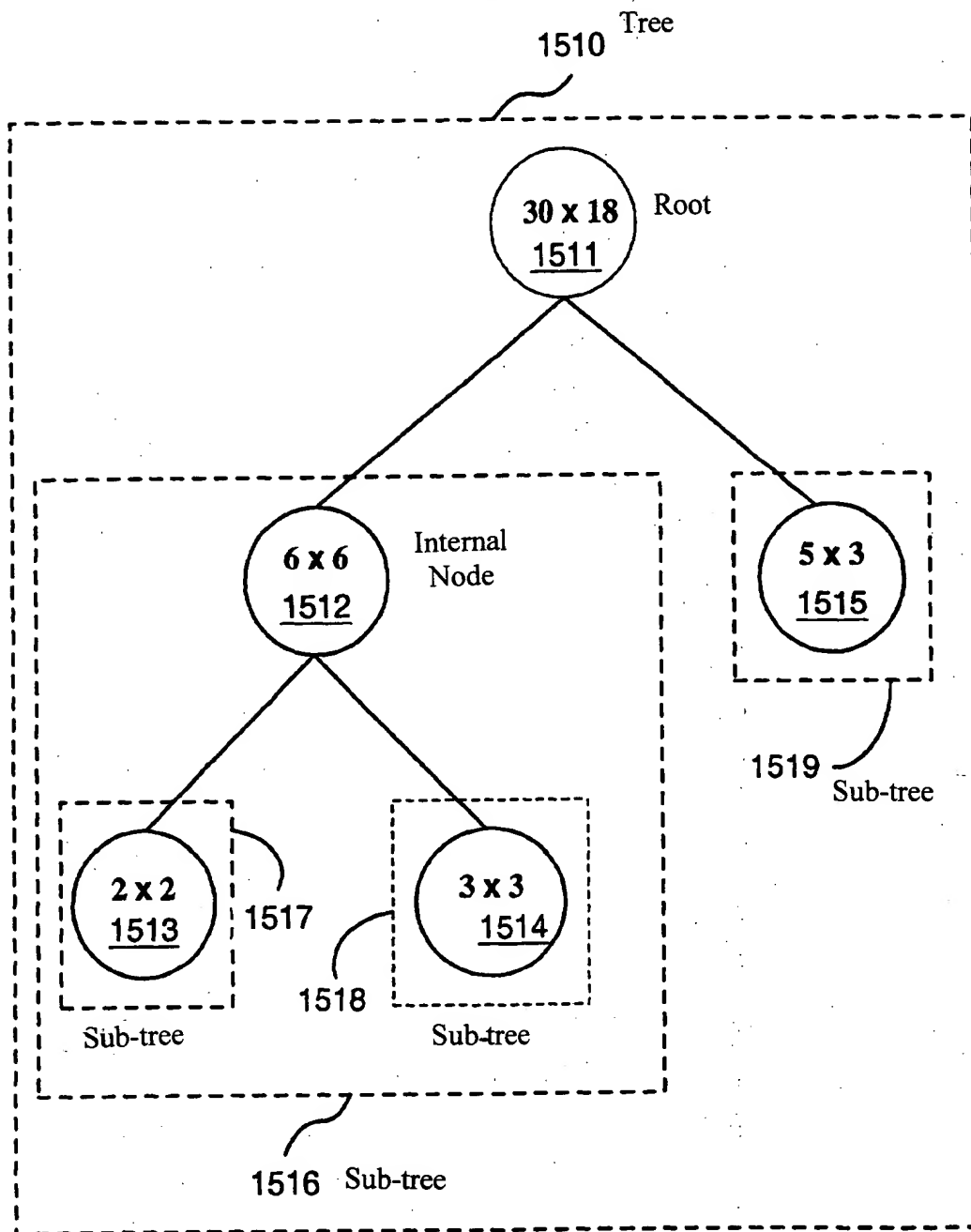
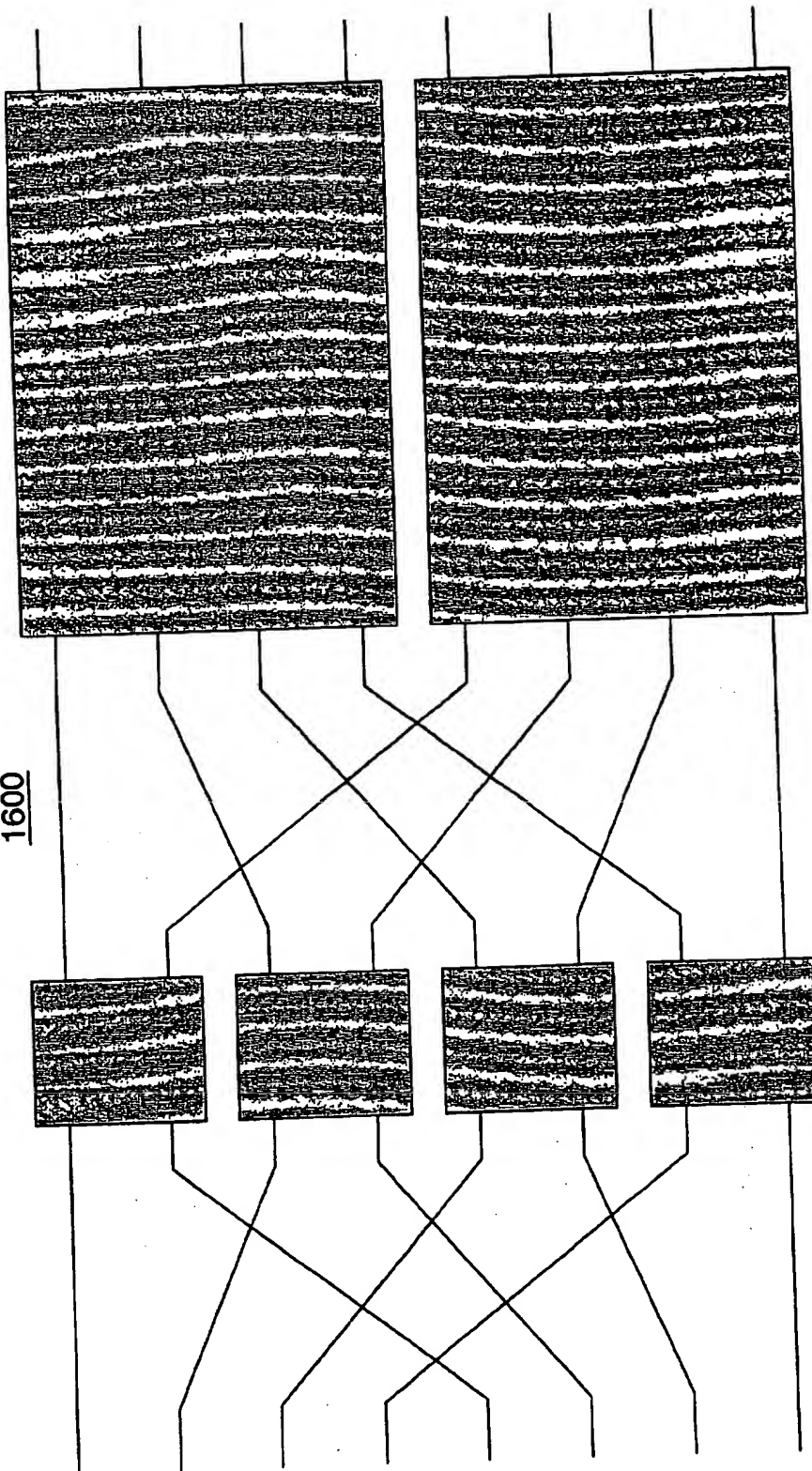


FIG. 15

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8x8 3-Stage Network

1600



1602

4x4 Network

FIG. 16

1601

2x2 Network

105190-1928860

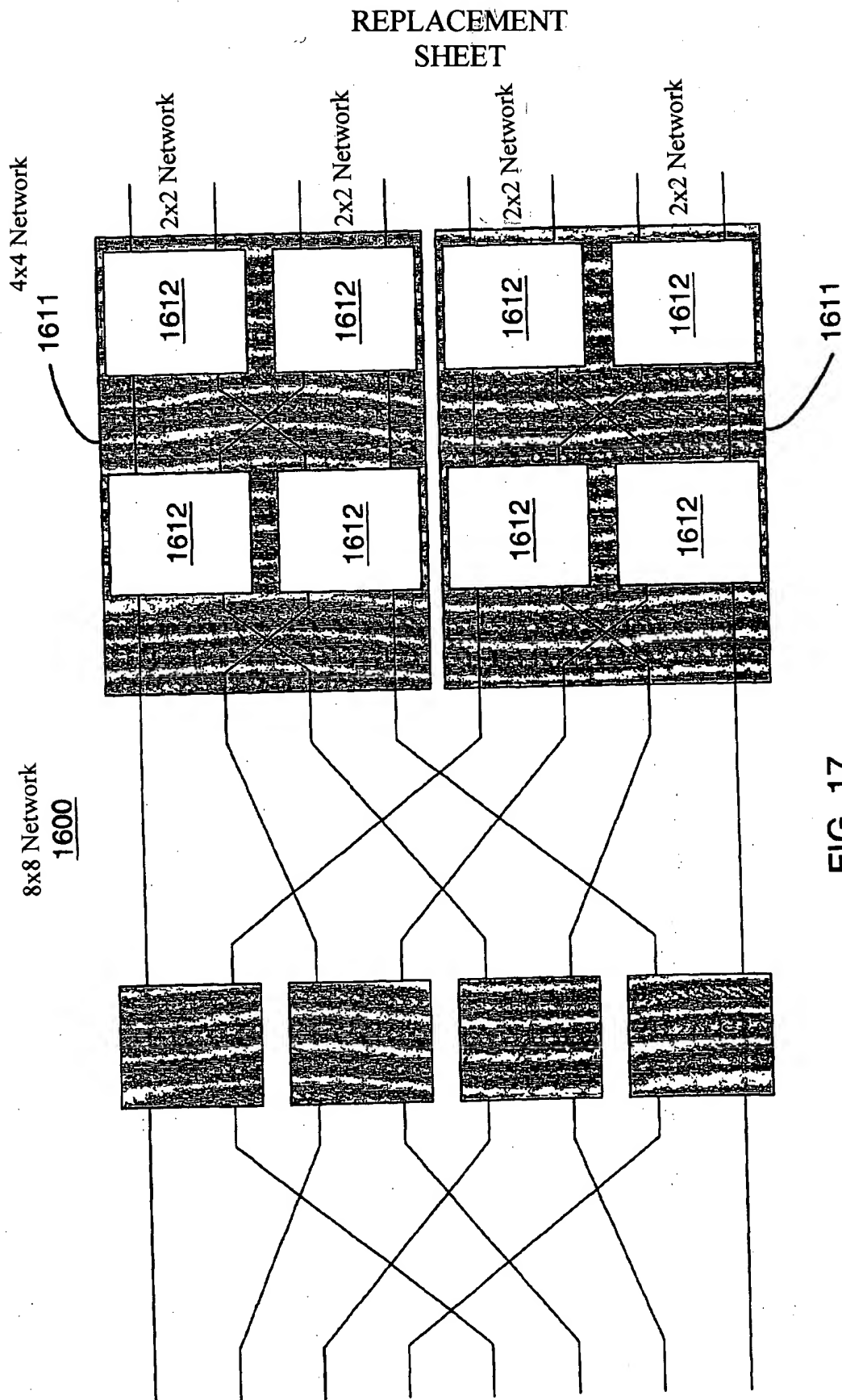
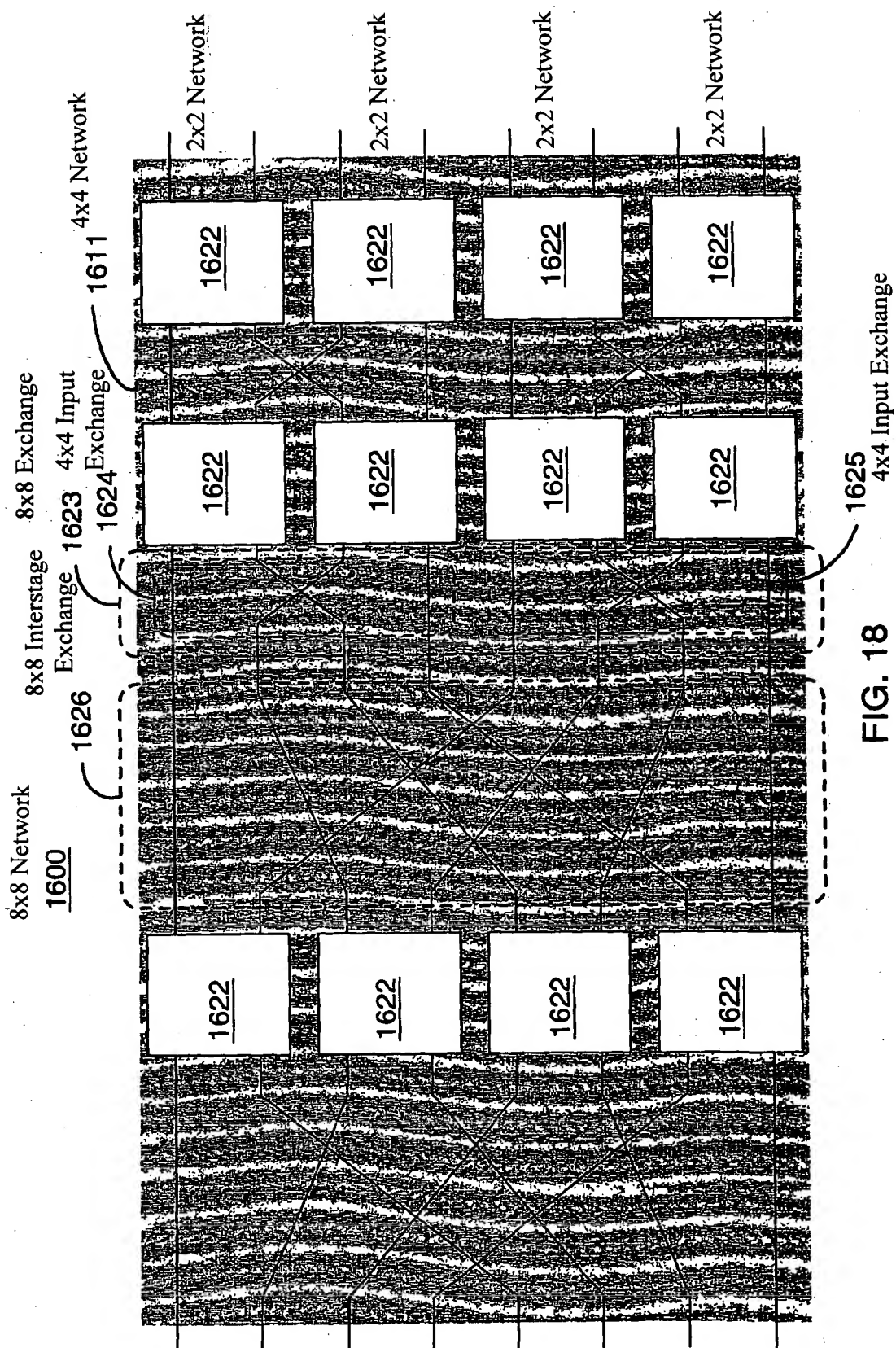


FIG. 17

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REPLACEMENT SHEET



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REPLACEMENT
SHEET

POST 90-19428860

8x8 Network

1600

8x8 Exchange

1631

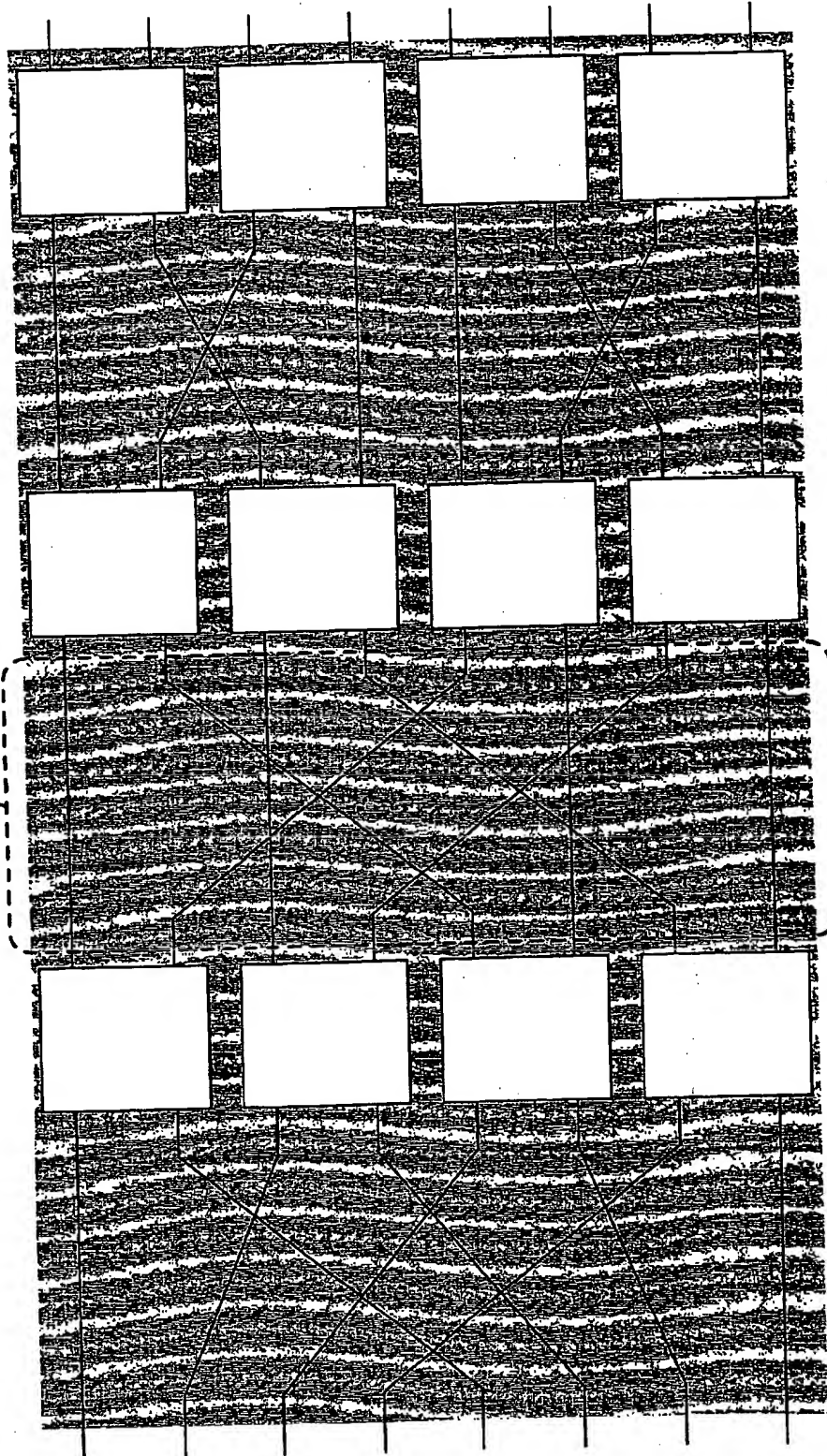


FIG. 19

REPLACEMENT SHEET

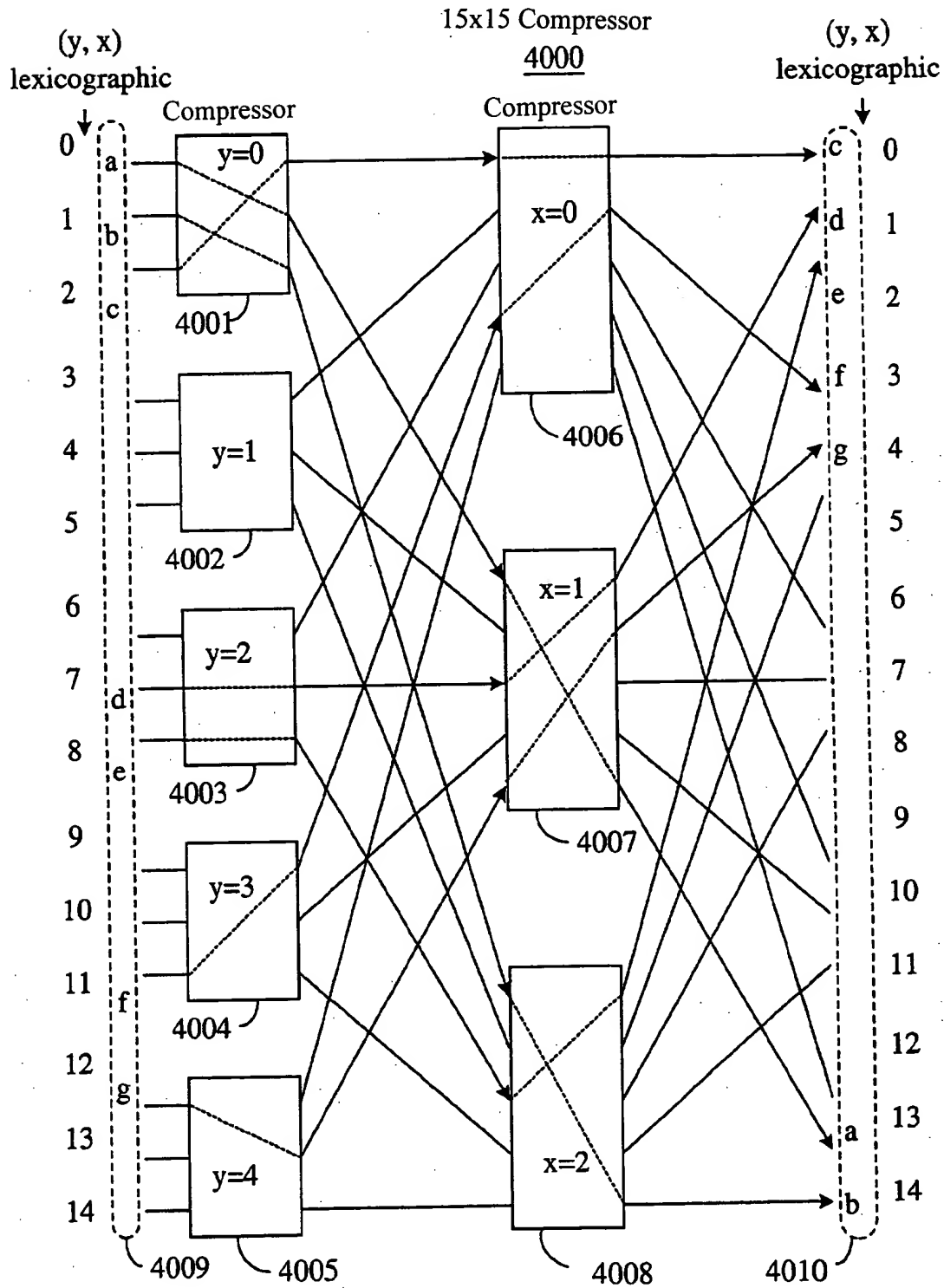
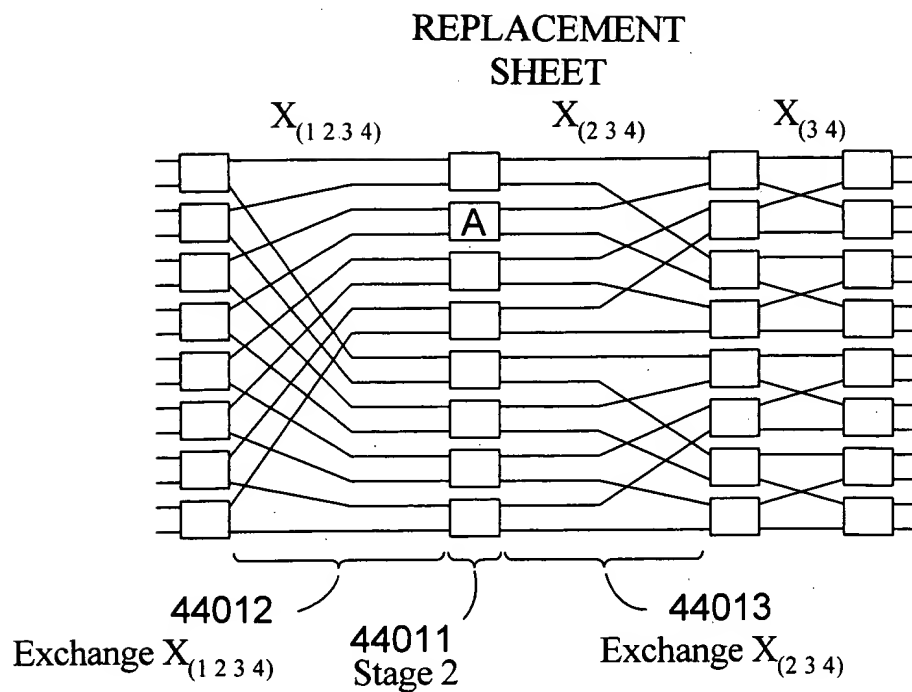
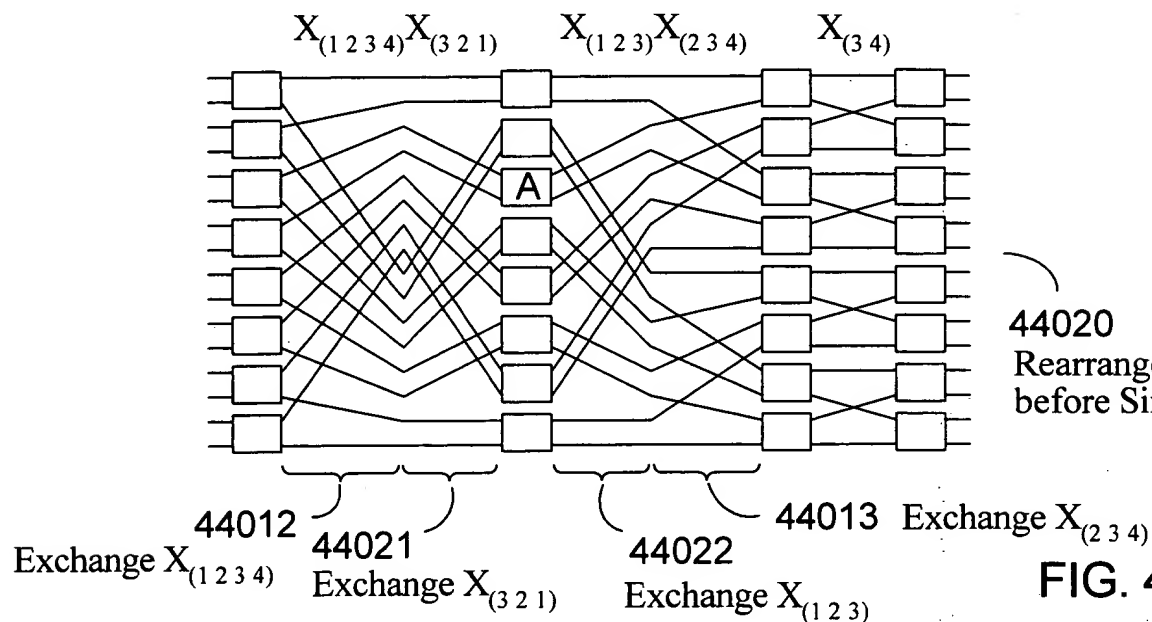


FIG. 40



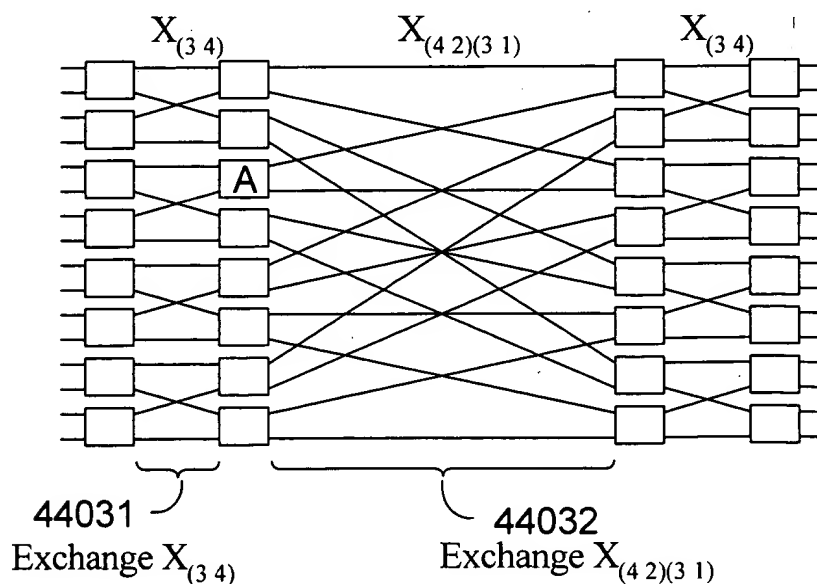
44010
16x16 Baseline Network

FIG. 44A



44020
Rearranged Network
before Simplification

FIG. 44B



44030
Rearranged Network
after Simplification

FIG. 44C

4700

Equivalence requiring the
match of I/O exchanges
($\langle \Leftarrow \Rightarrow \rangle$ common trace and guide
among the networks)

Equivalence requiring the
match of input exchange only
($\langle \Leftarrow \Rightarrow \Rightarrow \rangle$ common trace among
the networks)

Equivalence requiring the
match of output exchange only
($\langle \Leftarrow \Rightarrow \Rightarrow \rangle$ common guide among
the networks)

Equivalence without requiring the
match of I/O exchanges

$\langle \Leftarrow \Rightarrow \Rightarrow \rangle$ Trace of one network can be changed
into that of the other by a permutation.
 $\langle \Leftarrow \Rightarrow \Rightarrow \Rightarrow \rangle$ Guide of one network can be changed
into that of the other by a permutation

Equivalence
among bit-
permuting
networks
in stronger
sense

REPLACEMENT
SHEET

FIG. 47

REPLACEMENT
SHEET

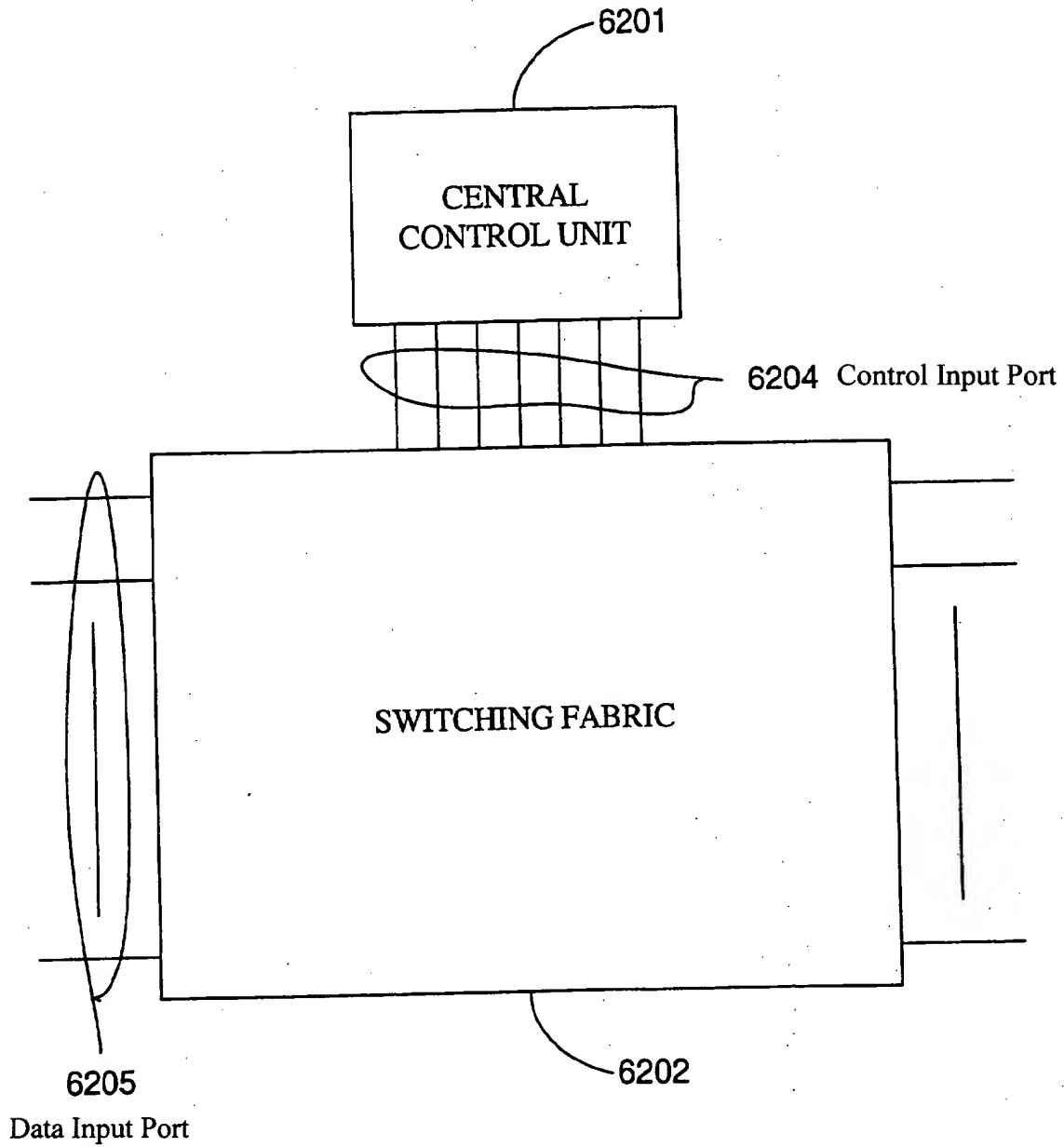


FIG. 62A

REPLACEMENT
SHEET

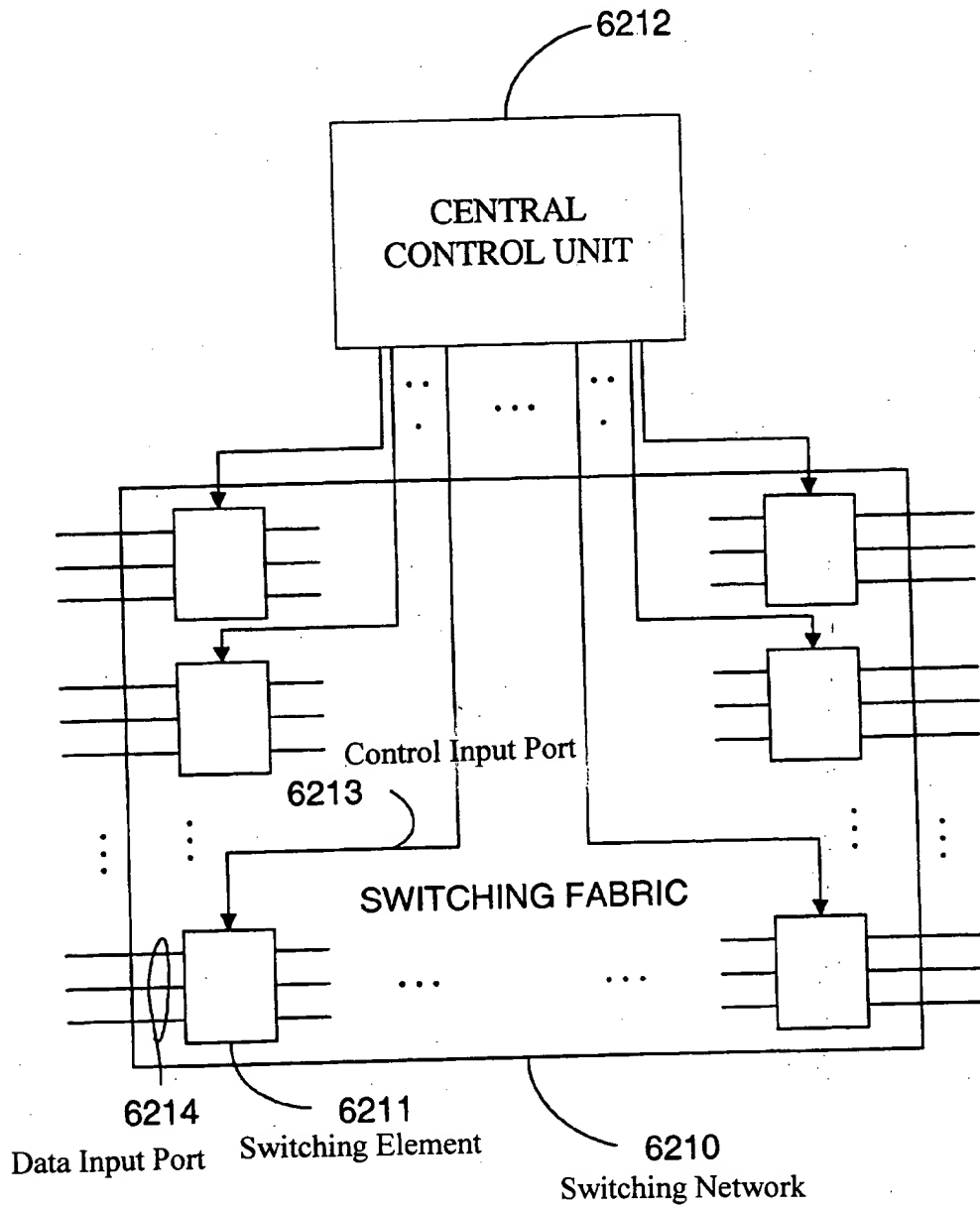


FIG. 62B

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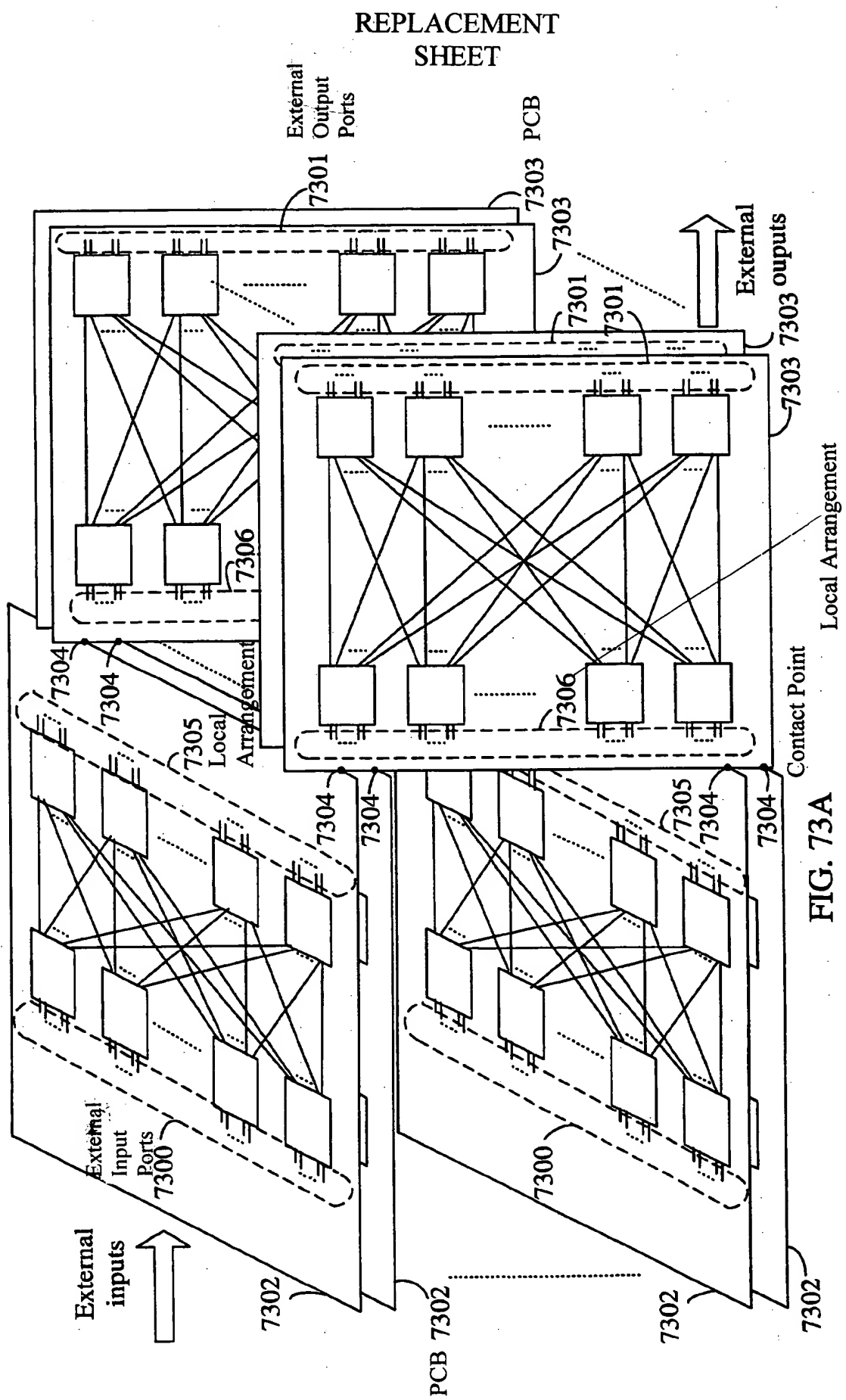


FIG. 73A

FIG. 73B

